



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**  
**REGION 5**  
**77 WEST JACKSON BOULEVARD**  
**CHICAGO, IL 60604-3590**

SR-6J

968735

June 28, 2021

John Wolski  
Senior Remediation Manager  
Raytheon Technologies - Corporate Remediation  
9 Farm Springs Road  
Farmington, CT 06032

**Subject:        *Review of Work Plan to Shutdown Remediation Systems and Perform Rebound Monitoring***  
***Hamilton Sundstrand Corporation (HSC) Plant 1/2 Facility***  
***Area 9/10 Remedial Action***  
***Southeast Rockford Groundwater Contamination Superfund Site, Rockford, Illinois***  
***ILD981000417***

Dear Mr. Wolski:

U.S. Environmental Protection Agency (EPA) has reviewed the above titled document dated April 21, 2021 prepared by AECOM on behalf of HSC for the Southeast Rockford Groundwater Contamination Superfund Site, Source Area 9/10 (SA 9/10) in Rockford, Illinois. General and specific comments are below. The Agencies (EPA and Illinois EPA [IEPA]) welcome the opportunity to discuss any comment clarification(s) and/or reach consensus on any differences in an effort to finalize the system shutdown document and begin the associated rebound monitoring and evaluation.

**General Comments**

1. The Agencies are in agreement that the air sparge soil vapor extraction (AS/SVE) remediation system located at the Groundwater Management Zone (GMZ) Area 2 southern boundary of the HSC property can be turned off with the understanding that rebound quarterly monitoring and on-going evaluation of the quarterly data will be conducted for at least one year with reports documenting the data and evaluation from the four quarters of data collection.

If monitoring wells at the GMZ Area 2 southern boundary or within the AS/SVE system's area of influence have leachate concentrations rebound and exceed maximum contaminant levels (MCLs), the system will be restarted. If evaluation and subsequent monitoring confirm that criteria will not be met at present, then the remedial action shall continue and be re-evaluated in the future. The record of decision (ROD) lists an **estimated 25 years of treatment of soil and leachate at the source areas** and 200 years for complete remediation of groundwater and return to natural conditions (p. 41). Although this is an estimate, this 25-year timeframe is a consideration. If the concentrations during the proposed system shutdown do not stay below MCLs, the AS/SVE will need to be restarted and continue for a period of time along with continued communication with the Agencies.

If the evaluation and subsequent monitoring confirms MCLs are being met at the GMZ Area 2 southern boundary and within the system's area(s) of influence, then HSC may petition EPA to decommission the system.

Note, that *if* the system's area(s) of influence is found to be larger than currently understood, and GMZ Area 2 western boundary leachate or vapor is affected (e.g. augmented concentrations along the western boundary monitoring wells during AS/SVE shutdown), the system may need to be turned back on, even if the GMZ Area 2 southern boundary leachate concentrations remain below MCLs, until an appropriate path forward can be formulated and agreed upon between the Agencies and HSC with respect to the western boundary.

2. Rename the revised document title. The draft document is entitled as a "Work Plan" however there is a lack of specificity and details presented (e.g. types of evaluations to be used, presentation of current trends along boundaries, schedule, etc.) which would truly make this a work plan. Instead, use a document title more fitting of the presented information. For example, *GMZ Area 2 Remediation System Shutdown and Rebound Monitoring Consensus Document*, or similar. Replace the term "Work Plan" throughout the document with the selected new title.

3. Note, that the acronym "ACL" under CERCLA Section 121 is defined as *Alternate Concentration Limits* and has very specific requirements for use at a site that are not and would not be met at SA 9/10 or the HSC property. To remove confusion with the CERCLA ACLs, EPA strongly recommends caveating your ACL (*Alternative Cleanup Levels*) acronym in this document and future documents, accordingly, as defined in the 2008 Consent Decree, Appendix C, Statement of Work.

4. Include in the document a presentation and discussion of the current conceptual site model for (SA9/10) and HSC property. This will provide context for the shutdown strategy.

5. As currently presented in the system shutdown document, alluded to in General Comment #1, and further specified in Specific Comment #7 below, the shutdown proposal is that of transport in absence of active remediation at "sentinel" boundary wells and not truly a rebound evaluation. All the monitoring wells within the areas of influence, and those wells immediately adjacent to those areas of influence need to be considered in the rebound evaluation.

6. It is not clear from this document if continued (long-term) leachate monitoring will occur after system decommission to assess that the GMZ Area 2 southern boundary continues to meet or be below PRGs. Include this information in the document.

7. Consideration and inclusion of data required for monitored natural attenuation (MNA) in this document is needed. The document seems to indicate that the same contaminants of concern (COC) data will be collected, but other parameters will need to be included (e.g. dissolved oxygen, ORP, pH, nitrates, sulfates, iron, manganese, alkalinity, chloride, methane, etc.) to assess MNA (confirm shrinking or stable plume). A baseline collection of this data is recommended followed by sampling (quarterly events initially, followed by agreed-upon recurring events).

### Specific Comments

1. **Page 2. Paragraph 1.** Change sentence to, "... (consisting to quarterly leachate monitoring for *at least one year*)."
2. **Page 2. Paragraph 2.** See General Comment #3 above regarding ACLs and include the caveat.
3. **Page 3. First partial sentence.** Include specificity in this sentence detailing the current "routine" sampling (e.g. all SA 9/10 wells quarterly) and the recurring deliverable(s) associated with the analytical comparison to PRGs and evaluation.
4. **Page 3. Paragraph 2, 3 & 4.** This document focuses on the GMZ Area 2 southern boundary. The basis for system shutdown is that PRGs (MCLs) are being met along this (southern) boundary which is within the area of influence of the AS/SVE system. Therefore, the potential use of ACLs and

downgradient GMZ boundary discussion in this paragraph is not germane to the AS/SVE system shutdown rationale. Please remove the ACL text.

5. **Page 3 & 4. Summary of Current Leachate Conditions within the Influence of the Remediation Systems.**
  - a. **Pulse On/Pulse Off:** Introduce the AS/SVE system “pulse-on” and “pulse-off” modes, as well as how and when over the years this has occurred (e.g. the history of pulsing and if the on/off periodicity has changed over the years). Indicate if the presented results (Tables 1 & 2) are collected during pulse on or pulse off scenarios. This way, one can understand on a year-by-year basis as well as operational mode basis, what the samples results indicate.
  - b. **Data from Pulse On/Pulse Off:** If there are COC data results that have been collected during pulse-off period(s), present and evaluate this data in comparison to the pulse-on data and present in the document. This may provide comparative pulse-off/system shutdown information if analytical data collected during pulse-off periods are available.
  - c. **Water Level Fluctuations:** Please present water level data (range, high, low, seasonality, etc.) and how fluctuations have/have not influenced COC concentrations over the years.
6. **Page 4. Rebound Monitoring Period. First Sentence.** Change sentence to, “...will extend for *at least* 1 year consisting...”
7. **Page 4. Rebound Monitoring Period. Paragraph 2.** Actions required during the rebound period will not only be based on the five GMZ Area 2 southern boundary wells (GMZ02, GMZ03, GMZ04, SMW20, and SMW21), but all the wells within the area of influence (e.g. “RAM” monitoring wells) as well as evaluating any potential changes in COC concentrations along the western boundary (e.g. PMW01 and PMW02) and GMZ Area 2 northeast boundary (e.g. SMW19). Although PMW01, PMW02, and SMW19 are outside the drawn AS/SVE system areas of influence, it is possible that they are indeed influenced by the remediation along the southern boundary. This system shutdown period will be an optimal time to monitor and evaluate this and revise the system influence area(s) as needed.
8. **Page 4. Rebound Monitoring Period Bullets:**
  - a. **Bullet 1a.** Remove “the systems will be decommissioned” and include text indicating that HSC will petition EPA to decommission the system. Note, at this time, the Agencies feel that after the rebound monitoring period is deemed complete, there will need to be a system “mothballing” where the system will stay shutdown but kept in good condition so it could be restarted and operational again if the need arose, for a period of time prior to complete system decommissioning. This period of time will depend on the rebound monitoring results and future discussions between the Agencies and HSC.
  - b. **Bullet 2.** The text states, “...if COC concentrations are less than an *order of magnitude*...” Does this mean the PRG concentration x 10? Please provide rationale for using order of magnitude benchmarks and see Specific Comment #8d with respect to using order of magnitude as points of references.
  - c. **Bullet 2a.** Remove ACL text or change the text to include uncertainty. In other words, change from “will be conducted” to “may be conducted with EPA concurrence”.
  - d. **Bullets 2b and 3.**
    - The Agencies do not agree with using an order of magnitude above PRGs and two orders of magnitude above PRGs as reference points. Since GMZ Area 2 southern boundary wells currently are below PRGs, it would be more appropriate to use an exceedance of the PRGs, as the first point of reference and one order of magnitude above for the second point of reference. Furthermore, it is unclear how Bullet 2b particularly the “...but less than two orders of magnitude” clause and Bullet 3 decision/actions are different. Please clarify the text and rationale behind the decision-making.

- Indicate the process and timeline/schedule for re-starting the system and notification to EPA. For example, will the system re-start be immediate upon HSC review of preliminary data if it is greater than two orders of magnitude, etc?
9. **Page 5. Paragraph 1.** Indicate if the quarterly monitoring reports will have a new section or appendix to present and evaluate the rebound monitoring and data results, or if there will be a separate quarterly deliverable. How will the information be included into the annual report? Temper the second sentence regarding decommissioning of the system as described in Specific Comment #8a above.
  10. **Figure 2.** Reword second to last box in the flow diagram. This box makes it seem as if the ACLs were described in the record of decision (ROD). They were not.
  11. **Figure 3.** Remove the "Achieve ACLs" text in the figure.
  12. **Figure 5.** Add legend entry for the blue dash line that indicates the area of influence for Phase 2 AS/SVE System.

If you have any questions, please call me at (312) 886-7153.

Sincerely,



Jennifer Knoepfle, Ph.D., P.G.  
Remedial Project Manager

cc (via electronic mail):

Brian Conrath, Project Manager, IEPA  
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